



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/393,431	09/10/1999	STEVE J. STATHL		2698

7590 09/20/2002  
STEVE J SHATHL  
4980 MEREDITH WAY #201  
BOULDER, CO 80303

EXAMINER

TSE, YOUNG TOI

ART UNIT	PAPER NUMBER
----------	--------------

2634

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/393,431		STATHL, STEVE J.	
	<b>Examiner</b>		<b>Art Unit</b>	
		YOUNG T. TSE	2634	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 1999 and 28 August 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-33 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-16, drawn to a method of producing electromagnetic carrier-interference multiple-access communication signals by phase shift keying modulation, classified in class 375, subclass 308.
  - II. Claim 17, drawn to an electromagnetic-wave system for transmitting and receiving carrier interference multiple access signals, classified in class 375, subclass 285.
  - III. Claim 18, drawn to a transmission system for generating and transmitting carrier interference multiple access signals, classified in class 375, subclass 296.
  - IV. Claim 19, drawn to a receiver for receiving and decoding delay-encoded carrier interference multiple access signals, classified in class 375, subclass 242.
  - V. Claim 20, drawn to a receiver for receiving and separating interfering multicarrier signals, classified in class 375, subclass 346.
  - VI. Claims 21-29, drawn to an apparatus enable to transmit at least one carrier signal occupying at least one predetermined frequency band, classified in class 375, subclass 295.

VII. Claims 30-33, drawn to a multicarrier-signal generator for pulse amplitude modulation, classified in class 375, subclass 353.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, III, IV, V and VI are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Group I recites the very specific method of producing electromagnetic carrier-interference multiple-access communication signals in a transmitter, such as modulating the carrier signals by phase shift keying modulation and providing phase-locking to the carriers to produce orthogonal interference. Group II recites both a transmitter and a receiver circuits. Group III recites a specific transmitter includes a multicarrier signal generator, a modulator, and a transmitter. Group V recites a specific receiver includes a multi-sample collector and a canceller. Group VI recites a specific transmitter includes a multicarrier-signal generator and a carrier-frequency selector, or filter, or a combiner.

3. Inventions IV and VII are unrelated to each other and I, II, III, V, and VI.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In Group IV, the receiver includes a delay decoder provides a predetermined delay to each of the received carrier signals to

Art Unit: 2634

remove the relative delays and a signal combiner combines the delay-decoded signals.

Group VIII relates to a pulse amplitude modulation generator which is different then the transmitter(s) or the receiver(s).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for any of the Groups II-VII, restriction for examination purposes as indicated is proper.

6. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is (703) 305-4736.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at (703) 305-4714.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

**Or:**

**(703) 872-9315 (for amendments after final rejection only, please mark "EXPEDITED PROCEDURE")**

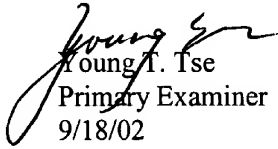
Application/Control Number: 09/393,431

Page 5

Art Unit: 2634

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

  
Young T. Tse  
Primary Examiner  
9/18/02